INVERTEBRATE FAUNA OF THE INTERTIDAL ZONE OF THE TOKARA ISLANDS -V. ECHINODERMATA-

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INVERTEBRATE FAUNA OF THE INTERTIDAL ZONE OF THE TOKARA ISLANDS

V. ECHINODERMATA[1)2)]

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With Plate VII and 3 Text-figures

CRINOIDEA

1. *Poecilometra scalaris* (A. H. CLARK) An individual in Takarazima. Dist.: South-west of Kyûsyû. (TK. No. 8).

ECHINOIDEA

2. *Plococidaris verticillata* (LAMARCK) Spines stranded in both Takarazima and Nakanosima. The northern-most locality: Kii-Ôsima (SAKAGUCHI, 1935) (TK. Nos. 21–22).
3. *Eucidaris metularia* (LAMARCK) Spines stranded in both Takarazima and Nakanosima. The northern-most locality: Kii-Sirahama (UTINOMI, 1953).
4. *Echinothrix calamaris* (PALLAS) Nakanosima. The northern-most locality: Kii-Sirahama (UTINOMI, 1953). (TK. No. 25).
5. *Tripneustes gratilla* (LINNÈ) Takarazima and Nakanosima. The northern-most locality: Kii-Sirahama (KOMAI, 1927), (TK. No. 26).
6. *Echinometra mathaei* (BLAINVILLE) Common in both Takarazima and Nakanosima. Darkly coloured individuals are distributed nearer the reef edge than whitish individuals. The northern-most locality: Simoda. (Biol. Rep. Simoda Mar. St., No. 1, 1933) (TK. Nos. 27–30).
7. *Heterocentrotus mammillatus* (LINNÉ) Takarazima and Nakanosima, in the latter it is very rare. The northern-most locality: Okinawa. (TK. Nos. 31–36).

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1) Scientific Survey of the Tokara Islands, Report No. 6.

2) Contributions from the Seto Marine Biological Laboratory, No. 212.

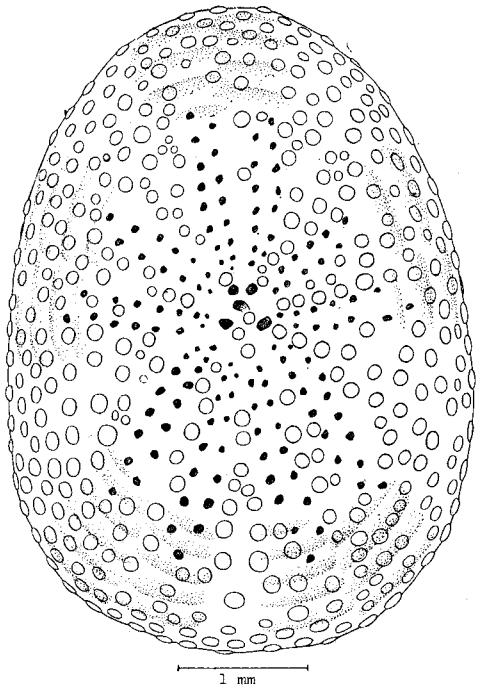


Fig. 1. *Fibularia* (*Fibulariella*) *acuta* YOSHIWARA, aboral side.

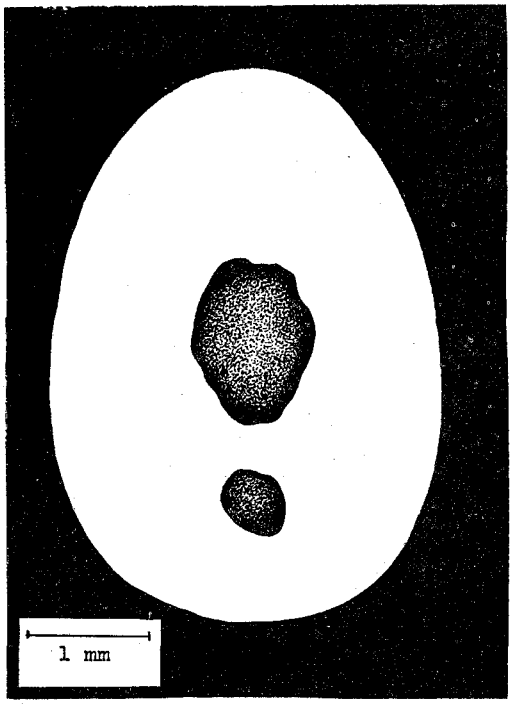


Fig. 2. *Fibularia* (*Fibulariella*) *acuta* YOSHIWARA, oral side.

8. *Colobocentrotus mertensii* BRANDT Nakanosima. The northern-most locality: Susami, Kii. (SAKAGUCHI, 1935) (TK. Nos. 37–38).
9. *Fibularia* (*Fibulariella*) *acuta* YOSHIWARA (Figs. 1 and 2) Stranded shells in Takarazima. The northern-most locality: Sendai Bay (S. NISIYAMA, 1937) (TK. No. 39).
10. *Echinoneus cyclostomus* LESKE. Stranded shells in both Takarazima and Nakanosima. The northern-most locality of living form: Kagosima Bay (MORTENSEN, 1934) (TK. Nos. 40–42).

ASTEROIDEA

11. *Acanthaster planci* (LINNÉ) An individual from each of Takarazima and Nakanosima. The specimen from Takarazima bears 9 madreporites and the specimen from Nakanosima with 10 ones. The northern-most locality: Amami-Ôsima (MITSUKURI, 1906: Zool. Mag., Vol. 15, p. 242) (TK. Nos. 9–10).
12. *Asterina anomala* CLARK Takarazima. Dist.: Torres Strait (CLARK, 1921) (TK. No. 11).

OPHIUROIDEA

13. *Ophiomastix annulosa* (LAMARCK) Takarazima and Nakanosima. The northern-most locality: Pinnacle Island (H. MATSUMOTO, 1917) (TK. Nos. 12–13).
14. *Ophiocoma scolopendrina* (LAMARCK) Very common in both Takarazima and Nakanosima. The northern-most locality: Kagosima Bay (H. MATSUMOTO, 1917) (TK. Nos. 14–17).
15. *Ophiocoma erinaceus* MÜLLER & TROSCHEL Takarazima. The northern-most locality: Yaéyama Islands. (TK. No. 18).
16. *Ophiocoma parva* CLARK Takarazima. Dist.: Torres Strait (CLARK, 1921) (TK. No. 19).
17. *Ophiarachna incrassata* LAMARCK An individual was found by Dr. S. MIYAMOTO in Nakanosima. The northern-most locality: Okinawa (MATSUMOTO, 1917) (TK. No. 20).

HOLOTHURIOIDEA

18. *Holothuria* (*Holothuria*) *vagabunda* SELENKA Common in both Takarazima and Nakanosima. The northern-most locality: Kôzusima, Izu (MITSUKURI, 1912) (TK. No. 43–44).

19. *Holothuria* (*Holothuria*) *atra* JAEGER Takarazima. The northern-most locality: Amami-Ôsima (MITSUKURI, 1912) (TK. No. 45).
20. *Actinopyga mauritiana* (QUOY & GAIMARD) Takarazima. The northern-most locality: Okinawa (MITSUKURI, 1912) (TK. No. 46–47).
21. *Stichopus horrens* SELENKA The shape and distribution of ossicles are quite the same as in previous descriptions, although besides ossicles numerous granules are found in the present specimen. Takarazima. Dist.: Torres Strait (CLARK, 1921) (TK. Nos. 48–49).

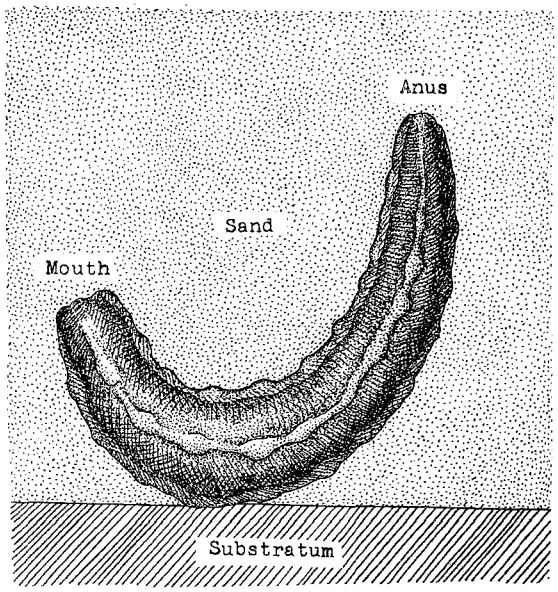


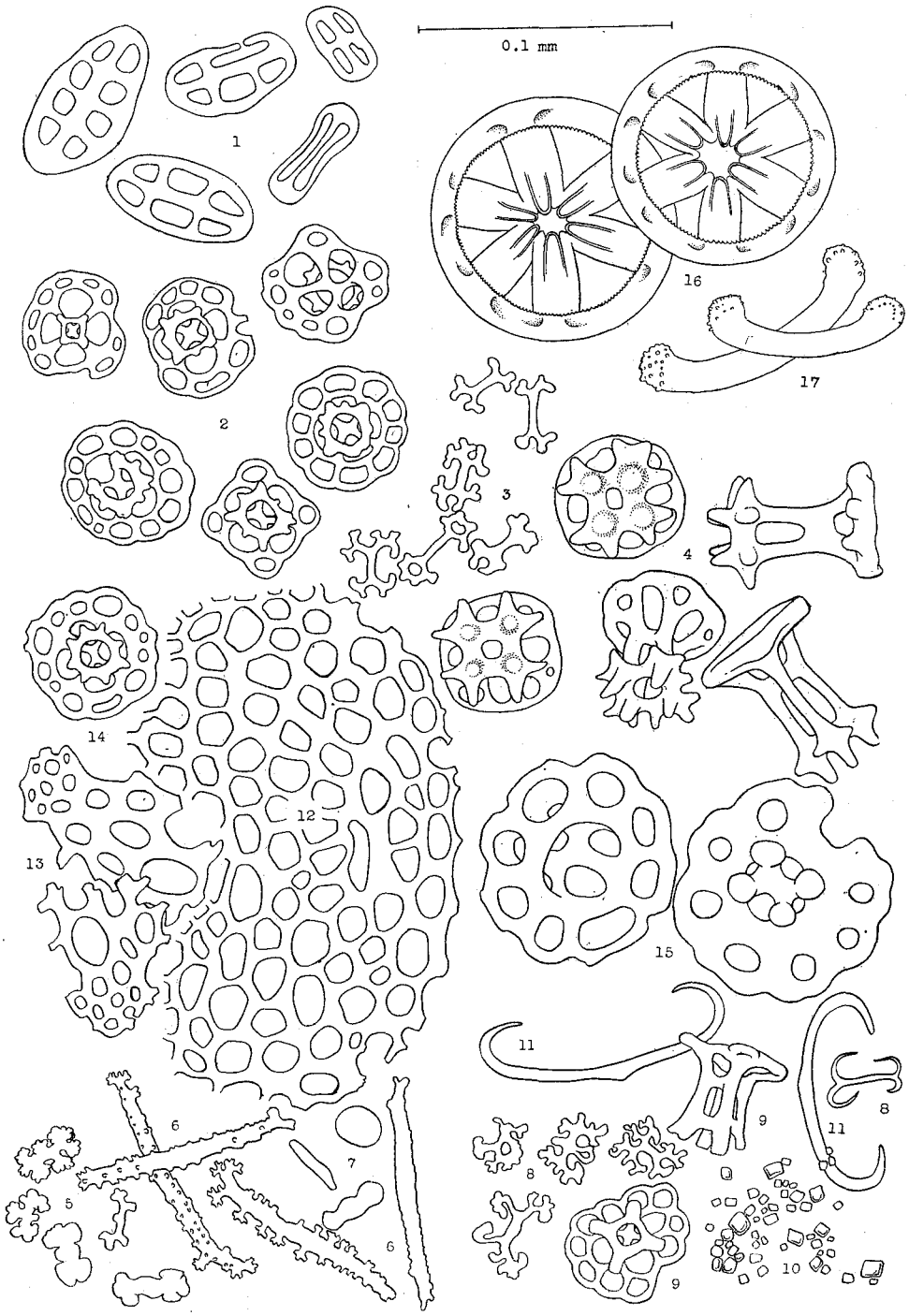
Fig. 3. Schema showing the posture of *Phyllophorus fragilis* MITSUKURI & OHSHIMA in sand.

22. *Pseudocucumis* sp. Takarazima and Nakanosima, in the latter it was rather common. (TK. Nos. 50–51).
23. *Phyllophorus fragilis* MITSUKURI & OHSHIMA Nakanosima. Buried in the sandy heaps on the reef. The animal adheres to the substratum by a part of the body near the anterior end and keeps in the sand a posture like U as indicated schematically in Fig. 3. When the animal is disturbed, it immediately jets the water from the anus and eviscerates soon after. The gonad is bluish green in male and fleshy yellow in female. Dist.: Okinawa (OHSHIMA, 1912) (TK. No. 52).
24. *Polycheira rufescens* (BRANDT) Common in both Takarazima and Nakanosima. The northern-most locality: Misaki. (TK. Nos. 53–54).

EXPLANATION OF PLATE VII

(Ossicles of holothurians collected from the Tokara Islands)

Fig. 1. *Holothuria* (*Holothuria*) *vagabunda* SELENKA, buttons.
Fig. 2. „ „ „ „ , tables.
Fig. 3. *Holothuria* (*Holothuria*) *atra* JAEGER, rosettes.
Fig. 4. „ „ „ „ , tables.
Fig. 5. *Actinopyga mauritiana* (QUOY & GAIMARD), rosettes.
Fig. 6. „ „ „ , rods.
Fig. 7. „ „ „ , simple ossicles.
Fig. 8. *Stichopus horrens* SELENKA, rosettes.
Fig. 9. „ „ „ , tables.
Fig. 10. „ „ „ , granules.
Fig. 11. „ „ „ , hamate ossicles.
Fig. 12. *Pseudocucumis* sp., a part of basal plate.
Fig. 13. „ „ , fenestrate ossicles.
Fig. 14. „ „ , a table.
Fig. 15. *Phyllophorus fragilis* MITSUKURI & OHSHIMA, tables.
Fig. 16. *Polycheira rufescens* (BRANDT), wheels.
Fig. 17. „ „ „ , rods.



T. TOKIOKA: INVERTEBRATE FAUNA OF THE TOKARA ISLANDS, V.